

CLAIMS

What is claimed is:

1. A fabricating method of a semiconductor package, comprising the steps of:
 - providing a substrate having a device-mounting region predefined within a chip-
 - 5 mounting region on a surface of the substrate, and a wire bonding region predefined around the device-mounting region for forming a plurality of bonding fingers thereon;
 - mounting a plurality of passive devices on the device-mounting region;
 - using an insulative material for encapsulating the passive devices;
 - disposing a semiconductor chip on a surface of the insulative material above the
 - 10 passive devices;
 - providing a plurality of bonding wires for electrically connecting the semiconductor chip to the bonding fingers of the substrate;
 - forming an encapsulant for encapsulating the semiconductor chip and the bonding wires; and
 - 15 providing a plurality of conductive members for electrically connecting the substrate to an external device.
2. The fabricating method of claim 1, wherein the device-mounting region is formed with a plurality of solder pads for attaching the passive devices thereto.
3. The fabricating method of claim 1, wherein the passive devices each has a top
- 20 surface and a bottom surface.
4. The fabricating method of claim 1, wherein the insulative material is an insulative adhesive having curability and fluidity.
5. The fabricating method of claim 1, wherein the insulative material is a thermosetting or thermoplastic material such as epoxy, silicone or polyimide.

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6. The fabricating method of claim 1, wherein the insulative material completely encapsulates the top surfaces and periphery of the passive devices through a dispensing process.

7. The fabricating method of claim 1, wherein the semiconductor chip has an active surface and an inactive surface.

8. The fabricating method of claim 7, wherein the inactive surface of the semiconductor chip is directly attached to the surface of the insulative material above the passive devices before the insulative material is cured.

9. The fabricating method of claim 7, wherein the inactive surface of the semiconductor chip is attached to the surface of the insulative material above the passive devices through an adhesive after the insulative material is cured.

10. The fabricating method of claim 1, wherein the conductive members are solder bumps including solder balls.

11. A semiconductor package, comprising:

a substrate having a device-mounting region predefined on a surface of the substrate, and a wire bonding region predefined around the device-mounting region for forming a plurality of bonding fingers thereon;

a plurality of passive devices attached to the device-mounting region;

an insulative material for encapsulating the passive devices;

a semiconductor chip disposed on a surface of the insulative material above the passive devices;

a plurality of bonding wires for electrically connecting the semiconductor chip to the bonding fingers of the substrate;

an encapsulant for encapsulating the semiconductor chip and the bonding wires;

and

a plurality of conductive members for electrically connecting the substrate to an external device.

12. The semiconductor package of claim 11, wherein the device-mounting region is formed with a plurality of solder pads for attaching the passive devices thereto.

5 13. The semiconductor package of claim 11, wherein the passive devices each has a top surface and a bottom surface.

14. The semiconductor package of claim 11, wherein the insulative material is an insulative adhesive having curability and fluidity.

10 15. The semiconductor package of claim 11, wherein the insulative material is a thermosetting or thermoplastic material such as epoxy, silicone or polyimide.

16. The semiconductor package of claim 11, wherein the insulative material completely encapsulates the top surfaces and periphery of the passive devices through a dispensing process.

15 17. The semiconductor package of claim 11, wherein the semiconductor chip has an active surface and an inactive surface.

18. The semiconductor package of claim 17, wherein the inactive surface of the semiconductor chip is directly attached to the surface of the insulative material above the passive devices before the insulative material is cured.

20 19. The semiconductor package of claim 17, wherein the inactive surface of the semiconductor chip is attached to the surface of the insulative material above the passive devices through an adhesive after the insulative material is cured.

20. The semiconductor package of claim 11, wherein the conductive members are solder bumps including solder balls.